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(54) Title: MEDICAL/SURGICAL POWERED HANDPIECE FOR ROTATING THE SHAFT OF A ACCESSORY, THE
HANDPIECE HAVING A COUPLING ASSEMBLY THAT FACILITATES THE FINE OR COARSE ADJUSTMENT OF THE
EXTENSION OF THE ACCESSORY SHAFT

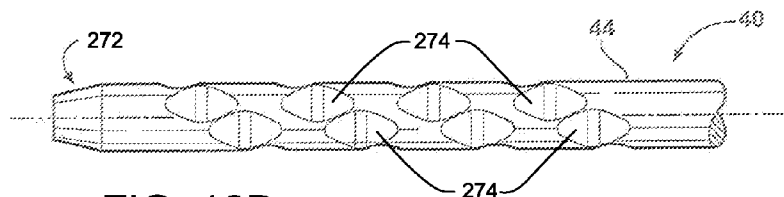


FIG. 16B

(57) Abstract: A surgical tool system including a handpiece with a motor and a cutting accessory with a shaft that is rotated by the handpiece motor. The handpiece includes a coupling assembly with plural locking elements for holding the accessory shaft to an output drive shaft that is actuated by the handpiece motor. The locking elements are longitudinally spaced apart from each other. The accessory shaft is formed with retention features against which the handpiece locking elements engage. The shaft retention features are in columns. The retention features in adjacent retention features are longitudinally offset from each other. This allows the coarse or fine adjustment of the extent to which the accessory shaft extends forward from the handpiece coupling assembly.



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INTERNATIONAL SEARCH REPORT

International application No
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A. CLASSIFICATION OF SUBJECT MATTER
INV. A61B17/16
ADD.

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED
Minimum documentation searched (classification system followed by classification symbols)
A61B

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)
EPO-Internal

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	US 2002/058958 A1 (WALEN JAMES G [US]) 16 May 2002 (2002-05-16) figures 1-3,9,10,36-42 paragraphs [0193] - [0196]	1-5
X	US 2002/151902 A1 (RIEDEL DANNY C [US] ET AL) 17 October 2002 (2002-10-17)	6-17
Y	figures 3,9A,13A-13C,19A,19B paragraphs [0093], [0110] - [0112], [0132]	18-21
Y	US 2005/116578 A1 (FLEURY CHRISTIAN [CH] ET AL) 2 June 2005 (2005-06-02) figures 1-3,7 paragraphs [0042], [0043], [0044], [0047], [0050], [0051], [0052]	18-21
	-/--	

Further documents are listed in the continuation of Box C.

See patent family annex.

* Special categories of cited documents :

- "A" document defining the general state of the art which is not considered to be of particular relevance
- "E" earlier document but published on or after the international filing date
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- "X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone
- "Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art.
- "&" document member of the same patent family

Date of the actual completion of the international search

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C(Continuation). DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	US 2006/053974 A1 (BLUST EDGAR [DE] ET AL) 16 March 2006 (2006-03-16) figures 1,2,4 paragraph [0056] -----	1
A	US 2003/060829 A1 (DEL RIO EDDY H [US] ET AL DEL RIO EDDY [US] ET AL) 27 March 2003 (2003-03-27) figures 1-6 * abstract -----	1
A	US 5 741 263 A (UMBER RAY E [US] ET AL) 21 April 1998 (1998-04-21) figures 2,3,5,8 -----	6
A	US 4 873 461 A (BRENNAN THOMAS J [US] ET AL) 10 October 1989 (1989-10-10) figures 1,2,3 column 3, line 23 - line 35 -----	18
A	WO 98/05261 A2 (STRYKER CORP [US]; WALEN JAMES G [US] WALEN JAMES G [US]; STRYKER CORP) 12 February 1998 (1998-02-12) figures 1,3,4 page 6, line 33 - page 7, line 9 -----	20

INTERNATIONAL SEARCH REPORT

International application No.
PCT/US2009/055670

Box No. II Observations where certain claims were found unsearchable (Continuation of item 2 of first sheet)

This international search report has not been established in respect of certain claims under Article 17(2)(a) for the following reasons:

1. Claims Nos.:
because they relate to subject matter not required to be searched by this Authority, namely:

2. Claims Nos.:
because they relate to parts of the international application that do not comply with the prescribed requirements to such an extent that no meaningful international search can be carried out, specifically:

3. Claims Nos.:
because they are dependent claims and are not drafted in accordance with the second and third sentences of Rule 6.4(a).

Box No. III Observations where unity of invention is lacking (Continuation of item 3 of first sheet)

This International Searching Authority found multiple inventions in this international application, as follows:

see additional sheet

1. As all required additional search fees were timely paid by the applicant, this international search report covers all searchable claims.

2. As all searchable claims could be searched without effort justifying an additional fees, this Authority did not invite payment of additional fees.

3. As only some of the required additional search fees were timely paid by the applicant, this international search report covers only those claims for which fees were paid, specifically claims Nos.:

4. No required additional search fees were timely paid by the applicant. Consequently, this international search report is restricted to the invention first mentioned in the claims; it is covered by claims Nos.:

Remark on Protest

- The additional search fees were accompanied by the applicant's protest and, where applicable, the payment of a protest fee.
- The additional search fees were accompanied by the applicant's protest but the applicable protest fee was not paid within the time limit specified in the invitation.
- No protest accompanied the payment of additional search fees.

FURTHER INFORMATION CONTINUED FROM PCT/ISA/ 210

This International Searching Authority found multiple (groups of) inventions in this international application, as follows:

1. claims: 1-5

cutting accessory comprising a specific arrangement of retention features.

2. claims: 6-17

powered surgical handpiece comprising a locking assembly which inhibits the rotation of the output drive shaft when the locking assembly is positioned to allow the locking elements to retract away from the cutting accessory retention features.

3. claims: 18, 19

powered surgical handpiece comprising a motor rotor having a bore and two magnets enclosed in the bore.

4. claims: 20, 21

powered surgical handpiece comprising a motor having a rotor, a lamination stack and a winding assembly.

INTERNATIONAL SEARCH REPORT

Information on patent family members

International application No PCT/US2009/055670

Patent document cited in search report	Publication date	Patent family member(s)	Publication date
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